

Appln No. 10/760,244
Amdt. Dated February 20, 2006
Response to Office Action of November 15, 2005

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REMARKS/ARGUMENTS

Applicant thanks Examiner for the detailed Office Action dated November 15, 2005. In response to the issues raised, the Applicant offers the following submissions and amendments.

Amendments

The description has been amended at page 9 to address the typographical error identified by the Examiner.

Claim 1 has been amended to highlight the features that distinguish the ink cartridge of the present invention from the prior art. Basis for the amendments can be found on page 6, lines 13-19.

Claim 5 has been cancelled.

Accordingly, the amendments do not add any new matter.

35 U.S.C. §102 - Claims 1 to 3

Claims 1 to 3 stand rejected for lack of novelty in light of the disclosure in US 6,158,850 to Cook.

To distinguish the present invention from the cited art, claim 1 has been amended to incorporate the sealed nature of the ink storage and refilling process. In the present cartridge, any exposure to air is minimized to reduce the amount of dissolved gas in the ink. Skilled workers will appreciate that dissolved air in ink is problematic because of so-called 'outgassing' in the ink feed system to the printhead. As air comes out of solution, bubbles form and can de-prime the firing chambers of the printhead. A de-primed firing chamber can often fail to refill with ink and be very difficult for a user to purge.

Outgassing also affects the cartridges ability to assess the amount of ink remaining in the cartridge. If ink ejectors are actuating without ejecting ink, the ink consumption rate is less than the rate used by the cartridge integrated circuits.

Pagewidth printheads are particularly prone to the negative effects of outgassing. The longer, relatively narrower ink conduits along the printhead provide a longer fluid path and therefore increased risk of bubble nucleation.

The scanning printhead shown in Cook exposes the ink to air. The ink reservoir 22 has an air space above the ink and the refill likewise keeps air above the ink. This necessitates the air conduit 14 from the reservoir to the refill 18. The collapsible membrane defining at least part of the ink storage volume allows the present invention to do without an air vent while also limiting the ink's exposure to air.

In light of the above, the cited references fail to anticipate the invention defined by the amended claims.

35 U.S.C. §103 - Claims 4 and 5

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Claims 4 and 5 stand rejected as obvious in light of Cook in view of US 6,250,738 to Waller et al.

Claim 5 has been cancelled so the objection to it is now moot.

As discussed above, Cook does not disclose the features of amended claim 1. Waller also fails to teach a refillable cartridge for sealed ink delivery to the printhead.

Accordingly, the combined disclosures of Cook and Waller do not teach the combination of elements defined in amended claim 1. It follows that claim 4 is not obvious in view of the cited references.

Conclusion

It is respectfully submitted that the Examiner's rejections have been successfully traversed and the application is now in condition for allowance. Accordingly, favorable reconsideration of the application is courteously solicited.

Very respectfully,

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